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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,299	08/27/2003	Robert C. Hansen	POU920030123US1	6669

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EXAMINER

BUI, BRYAN P

ART UNIT	PAPER NUMBER
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2109

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/650,299

Applicant(s)

HANSEN ET AL.

Examiner

Bryan P. Bui

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 08/27/2003.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application
- ☐ Other: _____.

DETAILED ACTION

1. This communication is responsive to Application No. 10/650299 filed on 08/27/2003 in which claims 1- 18 are presented for examination.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 08/27/2003 has been received and entered into the record. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Status of Claims

Claims 1-18 are pending in this application.

Claims 1, 7 and 13 are independent claims.

Claims 1-18 are rejected for the reasons discussed in detail below.

Specification

3. The disclosure is objected to because of the following informalities: on page 4, paragraph [0016], the elements 101 and 109 are not depicted in the drawings as described. Also, the acronyms of JMS (Java Message Services) and JSR (Java Specification Requests) are not explicitly described. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 13-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 13 recites the limitation of "[A] medium encoded with a machine-readable computer program code" which is interpreted as a code embodied in a computer-readable medium defined by the characteristics in paragraph 27 of the applicant's specification. According to paragraph 27 of the applicant's specification, code embodied in a computer-readable medium consisting of "transmitted over some transmission medium, such as over electrical wiring or cabling, through fiber optics, or via electromagnetic radiation, wherein, when the computer program code is loaded into an executed by a computer, the computer becomes an apparatus for practicing the invention". Claims 13 recites nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, a claim reciting a signal encoded with functional descriptive material does not fall within any of the categories of patentable subject matter set forth in § 101. Thus, Claim 13 is directed to the

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non-statutory subject area of electro-magnetic signals, carrier waves.

Also, claim 13 appears to represent nonfunctional descriptive material.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data. When nonfunctional descriptive material is recorded on some computer-readable medium, in a computer or on an electromagnetic carrier signal, it is not statutory since no requisite functionality is present to satisfy the practical application requirement. Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored in a computer-readable medium, in a computer, on an electromagnetic carrier signal does not make it statutory. See *Diehr*, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in *Benson* were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer."). Such a result would exalt form over substance. See also *In re Johnson*, 589 F.2d 1070, 1077, 200 USPQ 199, 206 (CCPA 1978) ("form of the claim is often an exercise in drafting"). Thus, nonstatutory music is not a computer component and it does not become

statutory by merely recording it on a compact disk. Protection for this type of work is provided under the copyright law.

It is suggested that applicant amend claim 13 to change "[A] medium encoded with a machine-readable computer program code" to "[A] computer-readable storage medium encoded with a machine-readable computer program code" to possibly overcome the 101 rejection.

Claims 14-18, depending on claim 13, are rejected for the same reason as set forth above.

To expedite a complete examination of the instant application, the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four categories of invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C.112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The word "if"(cited in claim 1, line 10; claim 2, line 2; claim 3, line 2; claim 7, line 13; claim 8, line 2; claim 9, line 2; claim 13, line 11; claim 14, line 2; claim 15, line 2) is a relative term, which renders those claims indefinite because it is unclear whether the limitation(s) following the word "if" are part of the claimed invention. See MPEP § 2173.05(d). Also, one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

The recitations of "a characteristic of said OGSA container"(in claim 1, line 8; claim 7, line 11; and claim 13, line 9), "the method"(in claim 13, line 3), and "a port of a grid resource"(in claims 5, 11, and 17, line 2). There is no antecedent basis for these limitations in the claims. Appropriate correction is required.

Regarding claims 14-18, these claims are directed to "the method of claim 13" except claim 17 which is directed to "the method of claim 16". However, claim 13 is directed to "[A] medium encoded with a machine-readable computer program code for managing open grid service architecture(OGSA) services, said medium including instructions for implementing the method comprising...". It is noted that the method (as cited in claims 14-18) comprises "instructions for implementing...", which does not comprise a number of steps for performing some functions. It seems applicant is referring to previously mentioned "[A] medium" as cited in claim 13. If so, appropriate correction is required. Moreover, those claims are still rejected because of their dependency on claim 13.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 3,7, 9,13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over OGSi (an article entitled "Open Grid Services Infrastructure (OGSI)"- Version 1.0) dated June 27, 2003, in view of Davis et al. (US Application No. 2004/0068553 A1).

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Regarding claim 1, OGSi teaches a method comprising:

A) "establishing an open grid service infrastructure(OGSI) instance (see OGSi, Page 7, section 3.1, lines 3- and section 12.2.1 Factory:: createService) including an OGSA container" (OGSi, Page 11 section 3.4 and Figure 3); and

B) "establishing an OGSA service and an OGSA descriptor including an OGSA container attribute needed for said OGSA service" (see OGSi, Page 11, section 4 "The Grid service" and Page 16, 17 section 6.2.1)

With respect to A), it is noted that OGSi teaches the claimed features of "establishing an open grid service infrastructure(OGSI) instance" as "The factory createService creates a new Grid service instance" (Page 55), and "including an OGSA container" as "Grid service instances (the ovals) associated with container-managed components (e.g., EJBs within a J2EE container)" (see OGSi, Page 11, section 3.4)

With respect to B), it is noted that OGSi teaches the claimed features of "establishing an OGSA service and an OGSA service descriptor including an OGSA container attribute needed for said OGSA service" as " [a] grid service is a WSDL-defined service that conforms to a set of conventions relating to its interface definitions and behaviors" (see Page 11, section 4) and ""the entire behavior of a Grid service instance is completely encapsulated within the component" (Page 11, section 3.4).

However, OGSi does not expressly disclose the claimed features of:

C) "deploying said OGSA service to said OGSi instance"; and

D) "comparing OGSA container attribute to a characteristic of said OGSA container"; and

E) "supporting said OGSA service on said OGSA container if said attribute matches said characteristic"

Davis et. al, from the same or similar field of endeavor, teaches a method for selecting an application container to host an instance of a requested Web service, wherein a deployment descriptor associated with the Web service can be modified to reflect the unique identity of the web service, and the modified deployment descriptor can be passed to a Web service engine in the remote host so that the web services engine can deploy the web service to the remote host (see Davis , paragraph [0040]). Davis also discloses a comparator can be programmed to compare the list with another list of requisite libraries (see Davis, paragraph [0011]). Davis further teaches the application container can be a specified application container where the comparator can identify an existing application container having libraries and associated library configuration information which matches the requisite libraries and associated library configuration information (see Davis, paragraph [0012]). Thus, it would been obvious to someone of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching Davis's would have allowed OSGI's to provide a programmatic method and system for dynamically selecting a Web service container for hosting remotely instantiated Web services (see Davis, paragraph [0010]).

Regarding claim 3, OGSi discloses the claimed feature of "generating an error message if said attribute does not match said characteristic" as "an error is generated when the instance is created" (see OGSi, section 6.4.1, Page 23-24). Most of the limitations of this claim have been noted in the rejection of claim 1, so it is rejected as set forth above.

Regarding claim 7, OGSi discloses the claimed feature of "an administrator system establishing an open grid infrastructure (OGSi) instance including an OGSA container", "a grid network coupled to said grid network" and "a grid resource coupled to said grid network" by providing a distributed system framework based on the Open Grid Services Infrastructure (OGSi) (see OGSi, Page 5) and a hosting environment (see OGSi, Page 6 together with section 3.3, 3.4, Page 9-11). The rest of the limitations of this claim have been noted in the rejection of claim 1, so it is rejected as set forth above.

Regarding claim 9, all of the limitations of this claim have been noted in the rejection of claim 3 and claim 7, therefore it is rejected as set forth above.

Regarding claim 13, OGSi does not explicitly discloses the claimed feature of "[A] medium encoded with a machine readable computer program code for managing open grid service architecture(OGSA) services". Davis et. al, from the same or similar field of endeavors, discloses a machine readable storage having

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stored a computer program for selecting an application container to host an instance of a requested Web service in a grid services architecture (see Davis, claims 15-20). Thus, it would been obvious to someone of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because teaching Davis's would have allowed OSGI's to provide a programmatic method and system for dynamically selecting a Web service container for hosting remotely instantiated Web services (see Davis, paragraph [0010]).

Regarding claim 15, all of the limitations of this claim have been noted in the rejection of claim 3 and claim 13, therefore it is rejected as set forth above.

6. Claims 2, 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over OGSi (an article entitled "Open Grid Services Infrastructure (OGSI)"- Version 1.0) dated June 27, 2003, in view of Davis et al. (US Patent Application No. 2004/0068553 A1) as applied to claims 1, 7, and 13 above, and further in view of Brown et al. (U.S. Patent Application No. 2003/0110242).

Regarding to claims 2, 8, and 14, neither OGSi nor Davis explicitly teaches the claimed feature of "reconfiguring said OGSA container if said attribute does not match said characteristic to support said OGSA service". However, Brown et al. teaches a method and apparatus for dynamic reconfiguration of web services

infrastructure, wherein the previously running servers can reconfigure themselves to act as routers to send all requests by proxy to new server (see Brown et al., paragraph [0093] together with Fig. 4G (254) and Fig. 4H (252)). It would have been obvious to one of ordinary skill in the art at the time the invention was made to further combine the teachings of Brown's with the cited references because teaching Brown's would have allowed OGSi's and Davis's to provide a method and apparatus for dynamically reconfiguring Web services infrastructure based upon context (see Brown, paragraph [0014]).

7. Claims 4, 5, 10, 11, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over OGSi (an article entitled "Open Grid Services Infrastructure (OGSi)"- Version 1.0) dated June 27, 2003, in view of Davis et al. (US Application No. 2004/0068553 A1) as applied to claims 1, 7, and 13 above, and further in view of Java (Article entitled "Java Programmer's Guide").

Regarding claims 4, 10, and 16, neither OGSi nor Davis explicitly teaches the claimed feature of "providing a user interface for managing OGSi instances, said user interface providing a tool for creating an OGSi instance for supporting OGSA services". However, Java teaches some additional APIs and features provided by a framework for more advanced service developers (see the introduction of Java together with Part II: Additional APIs). Specifically, Java discloses a GUI framework (see Java, Page 6, section 3.1 GUI client), wherein a

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test method of GUI client including "create an instance in the Factory panel" is provided (see Java, Page 6, step 3 to test your GUI client).

Regarding claims 5, 11, and 17, neither OGSi nor Davis explicitly teaches the claimed feature of "said creating said OGSi instance includes identifying a port of a grid resource to support said OGSi instance". However, Java discloses that a service container API is provided to start embedded local hosting environments listening on particular ports (see Java, Page 14, section 10: Service Container). Additionally, Java further teaches that the NotificationSinkManager API (see Page 10, section 5 Notifications) makes use of this API to multiplex all sink URLs exposed over a single port(per transport).

Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further combine the teachings of Java's with the cited references because teaching Java's would have allowed OGSi's and Davis's to provide some additional APIs and features for the more advanced service developers.

8. Claims 6, 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over OGSi (an article entitled "Open Grid Services Infrastructure (OGSi)"- Version 1.0) dated June 27, 2003, in view of Davis et al. (US Patent Application No. 2004/0068553 A1) as applied to claims 1, 7, and 13 above, and

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further in view of Wilding-McBride (Book entitled "Java Development on PDAs: Building Applications for PocketPC and Palm Devices).

Regarding to claims 6, 12, and 18, neither OGSI nor Davis explicitly teaches the claimed feature of "providing a user interface for said deploying said OGSA service, said user interface including a tool for undeploying said OGSA service". Wilding-McBride, however, teaches "To undeploy the web service, we again use the Axis administration client. The Ant build file defines a target to undeploy the image service, called UndeployImageService" (see Wilding-McBride, Page 15). It would have been obvious to one of ordinary skill in the art at the time the invention was made to further combine the teachings of Wilding-McBride with the cited references because teaching Wilding-McBride's would have allowed OGSI's and Davis's to provide a method and a system to remove an existing web service to allow for new updates and newer services to appear on a host (see also Page 15)

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hodges et al. (US Patent Application Pub. No. 2004/0123232 A1)

Davis et al. (US Patent Application Pub. No. 2004/0068731 A1)

Berkland et al. (US Patent Application Pub. No. 2004/0117425 A1)

Upton (US Patent Application Pub. No. 2003/0105884 A1)

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan Bui whose telephone number is (571)-270-1981. The examiner can normally be reached on Monday-Friday from 7:30 am to 5:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Coby can be reached on (571)-272-4017. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pairedirect.uspto.gov>. Should you have questions on access to the Private PAIR system,

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contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from USPTO Customer Service Representative or access to the automated information system, call 1-(800)-786-9199 (in U.S.A or Canada) or 1-(571)-272-1000.

Examiner

A handwritten signature in cursive script that reads "Bryan Bui". The signature is written in black ink and is positioned above a horizontal line.

Bryan P. Bui

A handwritten signature in cursive script that reads "Frantz Coby".

FRANTZ COBY
SUPERVISORY PATENT EXAMINER